THE AMERICAN ARCHITECT AND BUILDING NEWS.

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BOSTON, MARCH 4, 1876.

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THE Washington correspondence of the New York Tribune gives some account of the architectural bill which has been prepared, it says, under direction of the Supervising Architect. Like the bill offered by the Institute of Architects, it was to be put into the hands of Mr. Hewitt, the representative from New York, and would be referred to the Committee on Public Buildings and Grounds. The sections given in the Tribune provide that the Supervising Architect "shall obtain the designs for works under his jurisdiction by open and general competition" for all work — except alterations and repairs — whose cost is to reach fifty thousand dollars. The competitions are to be decided by a board of four experts, chosen by the Secretary of the Treasury from among the Fellows of the Institute, with the Supervising Architect as their presiding officer; and premiums are to be awarded to an amount not greater in the aggregate than one-half per cent of the intended cost of the work. The successful architect in each case is to prepare specifications, plans, and working-drawings in duplicate, filing one set of them in the Supervising Architect's office, to become the property of the Government, and to be used in carrying out the work under superintendence of the Supervising Architect. The fee of the architect whose design is adopted is to be, according to the usual schedule, three and a half per cent when the cost of the work is not to exceed a half million of dollars; and, when it does exceed that amount, a commission to be fixed by the Board of Experts at not more than three per cent. No changes are to be made in the accepted plans except by authority of the Secretary of the Treasury, and after consideration of a joint report from the Supervising Architect and the architect of the building.

IT will be noticed that in the Treasury Bill no bureau is established; and therefore the office of Supervising Architect remains, as it is now, subject to the appointment not of the President, but of the Secretary. This, by keeping the office one degree farther removed from the first distribution of the spoils of office, is, as things go, perhaps an advantage. The board of experts is by this bill to be entirely made up from the Institute, — a provision which comes more gracefully from the Department than it could from the Institute itself. That the building should be carried on under supervision of the central office, seems to us necessary, as we said in our last number, if there is to be a central office at all. It is reasonable too, that the Government, unlike a private client, should under these circumstances become the owner of a duplicate set of drawings, as provided in the bill. This will require the preparation of all the working-drawings in advance of the work; a disadvantage of which we have spoken in our article upon contracts in the present number, but which is perhaps inevitable. The compensation provided is a fair one; and its establishment would be of value to the profession in giving an authoritative indorsement to a rate which is already definitely and reasonably fixed, but too often questioned and misunderstood. We shall wait with interest for the publication of the whole bill.

IT appears that not even the Institute of British Architects, sitting in its official meetings, is exempt from such persecution from inventors and mechanics as a correspondent called to our notice a short time ago. At a late meeting of the Institute, a number of advertising pamphlets which had been sent to the secretary "for distribution," and by him laid on the members' table, were found to contain each a slip of paper offering twenty-five per cent commission to architects. The members present were naturally annoyed at the unusual impudence of this suggestion; and some debate followed, as to how the Institute should notice and repel such attacks; but after a suggestion from the president, Sir Gilbert Scott, that the papers be burned, and the name of the tradesman be struck from the lists, and he be cut off from all employment under the members of the Institute, the matter was allowed to drop. These attacks are difficult to avoid, and the evil they betoken difficult to cure. But something might be accomplished by taking a hint from Sir Gilbert Scott's suggestion, if architects would agree to report among themselves, and as far as possible refuse to employ, any tradesmen who had offered commissions to them. If, in consequence of this treatment, the tradesmen could be inspired by resentment to publish the architects who had taken fees from them, a double advantage would be gained.

AT the same meeting the secretary read a letter from the Executive Commissioners (British), for the Philadelphia Exhibition, stating that they had reserved, in the section of the Fine Art Gallery allotted to Great Britain, appropriate space for the display of architectural designs, and inviting the council of the Institute to take action for securing a worthy representation of British architecture at the Centennial; since, as the letter said, "So many important buildings have been erected in London of late years, distinct in character from any thing which exists in America, that it seems specially desirable that the space allotted to British architectural designs should be well and adequately filled." We sincerely hope that it will be so, and also that there will be a good collection of architectural drawings from France. It will be a very good thing for the mass of our architects and students to see what is done in their profession in these two countries, and how it is set forth in their drawings. We may fairly hope, in this as in the other fine arts, to get more benefit from what we see of the art of foreign nations, than from the opportunity of exhibiting our own. Nevertheless it is to be hoped that American architects will take pains to make as good a collection of drawings as possible. The New York and Boston chapters of the Institute have already taken the matter in hand; and the Baltimore and Chicago chapters have at least considered it.

IT is said that a school of the fine arts has been established in Japan, at Yeddo, for which the Japanese Government proposes to import three professors from Italy. The chairs are somewhat curiously assigned, — though in a manner that indicates certain characteristics of the art of the country, — one to architecture, one to ornamentation, and one to painting and sculpture combined. The denationalizing of Japanese civilization has in the last few years been going on at a disheartening rate; but this is the most painful symptom we have noticed. The Japanese, to be sure, know little of architecture and of sculpture; but their paint-

ing, though narrow in its range, is, in its kind, surprisingly perfect, and is of a very artistic kind. In ornamental art they are, to say the least, not behind any nation of the present day; and we had supposed that in the general diffusion of artistic sense and power they were unsurpassed. We hear complaints that the introduction of European notions among them has already wrought some injury to their art: to have it lose its own characteristics, and assimilate itself to the art of modern Europe, would be a loss to the world. And, of all the nations in the world to whom they could turn for direction in art, the Italians would seem to be the most antagonistic. If they need a more highly developed architecture, one would think the Japanese capable of developing it for themselves; one shudders at the incongruity of their introducing Vignola and Palladio. Where they should look for sculpture, with their indifference to the figure, it is hard to say; and it is impossible to imagine an Italian ornamentor, with his *Cinque Cento* ideas, finding any *prise* for his missionary instructions among a people so superior in their way to his own. The Japanese art, restricted as its sphere is, is so exquisite that it is intolerable to think of its being killed out to make room for an exotic, and at the same time is so well disciplined and rigorous that one doubts whether an imported art can be made to displace it. It would seem to us to be quite as hopeful and desirable to establish a professorship of Japanese art in the now rejuvenated Rome.

THE NATION, in a review of Hamerton's Etching and Etchers, suggests that it would be well if our journal could be illustrated with etchings, and asks why it should not be so illustrated. There is nothing we should like better, if it should prove to be practicable. At present, however, to keep supplied with etchings would be an expense quite beyond our reach. So far as we know, there is very little etching done in the United States. A certain number of engravers do more or less of it, mostly in preparing plates which are to be finished up with the burin; and a very few painters etch occasional plates. Of architects and architectural draughtsmen, a few only have tried it once or twice for experiment's sake. Indeed, so rare is the real thing among us, that publishers have not scrupled to publish books — we may instance Mrs. Greatorex's recent or current publication, Old New York — of which the illustrations profess to be etchings, but are obviously only reproductions, by some photographic process, of pen-drawings. The habit which now prevails of rendering architectural drawings in pen and ink is a most natural introduction to etching, the treatment appropriate to the two processes being identical. The fact that they are commonly rendered on a large scale for exhibition purposes would eliminate most of the drawings which are made in the course of ordinary practice; but any general awakening of interest in good architectural etchings might be a wholesome corrective of the panoramic tendency of the day. And if our draughtsmen could be got to study and carefully to copy the work, say, of Meryon, or the plates of Rochebrune, which are better known, they would find that they had much to learn from them. Our architects too, most of whom, under pressure of their business, cease to use their pencils except for such hasty sketches as are necessary to explain their purposes to draughtsmen, might find a new inspiration to maintain their skill, if they could be tempted by the etching needle; and so we might get occasionally, — what is worth more than roods of "Whatman" covered with ordinary draughtsmen's work, — an artist's sympathetic and carefully considered sketch of his own design. It is possible that greater opportunities of publication than now offer might have some effect in stimulating this kind of art. At all events, if any architects or other artists will lend us good coppers of subjects suitable for our pages, we shall take pleasure in following the Nation's suggestion by publishing them.

A CORRESPONDENT sends us a translation of the law concerning the construction of smoke-flues, as it exists at present in Paris. Those who will read it will see one cause of the immunity from fires which Paris enjoys. The care with which the flues are built is supplemented by the care which is taken of them afterwards. The law requires that they be swept at frequent intervals. If a chimney takes fire, this is considered sufficient evidence of neglect; and the occupant of the house or apartment in which it occurs is fined, whether harm comes of it or not.

CONTRACTS FOR GOVERNMENT BUILDINGS.

THE bill which we noticed last week provides that "the Government Architect shall cause competitions to be instituted for the execution of every architectural Government work, and shall establish uniform and equitable rules for their government," reporting annually to Congress the results of such competitions, and the rules under which they are held. This does not very clearly express what we assume it to mean, — that the Government Architect, or, through him, the Secretary of the Treasury, shall award the architectural work of the Government by contract in competition.

The question between day's work and contract work for Government buildings is a pretty difficult one. On the one hand, it is important to use the public money as sparingly as possible; on the other, it is even more important that the public work shall be well done. As a question of economy, there are difficulties on both sides. It is likely, that, for most of the Government building that has been done lately, contracts might have been had in open competitions at much less than its actual cost. But experience shows that it is very difficult for the Government to award contracts satisfactorily to itself, and still more so to secure the faithful execution of them. The constant experience of the Post Office Department in its mail contracts, and the notorious troubles of the Indian Bureau, are sufficient examples. In private practice it is possible to limit competitions for contracts to bidders whom an architect knows to be trustworthy; though even here the desperate desire of clients, to have their work done at the cheapest rate, is often a serious obstacle. But where the whole public is the client, and every citizen has legally an equal title to bid for its patronage, where every bidder may in fact claim to be a representative of the client, it is practically impossible to reject competitors who give the established guaranty of capability. We are not aware that it has ever been found possible to limit government competitions in this country, or even that it has ever been thought practicable enough to be attempted. The competitions, then, being open, are beset by bidders who intend not to carry out their contracts faithfully if they can help it; and this very intention gives these men an advantage in a competition of which it is a necessary rule, that the contract shall be awarded to the lowest bidder. A contract so awarded entails the necessity of rigorous oversight; and to secure good work from a man who is bent on scamping his contract requires even closer and more costly supervision, than to insure that day's work shall be done economically. But if an underbidding contractor is compelled to do his work faithfully, or often even if he is not, his next resort is to come before Congress with a petition or a bill for his relief for having undertaken work for less than it cost to finish it. In this he is apt to be successful; and in the end the Government pays more for its work than if it had been awarded to a higher and honester bid — perhaps much more than it would have cost to do it by the day.

The single advantage of the contract system to the client, beyond the fact that it enables him to know beforehand what he is going to spend, which is always to be desired, is that it relieves him from the administrative care of his work, for which he is not competent and has not time; turning it

over to the care of an expert whose experience and appliances enable him to carry it on most successfully and economically, and leaving to the client, or his agent, only the care of seeing that the work when done is satisfactory, and of making stated payments for it. In the case of a private individual or corporation, which builds only occasionally, the economy and convenience of such a system is obvious; but how far these extend to a government is questionable. A government which is building all the time, as ours is likely to be for a generation to come, may conceivably find it to its advantage to take the management of the building into its own hands; and, if it can keep in its service a body of honest and expert men, may through them carry on its work in such a way as to save to itself the margin of profit which contractors reserve for themselves, and which ought to be more than the expense of administering the work as efficiently as the contractor would administer it; against which expense, also, is to be set the cost that must be incurred in closely watching and checking the work of the contractor himself. The knowing beforehand what a building will cost is a question of estimates, which, it would seem, might be as accurately and economically prepared by an expert in the service of the Government as by an expert working for himself; with this difference in the result, that the contractor may be ready to scamp and spoil the work, rather than let it outrun his estimate, while the Government Architect presumably is not.

There is another side of the contract system which deserves notice, and which is less apt to get it. This is its effect on the work of the architects. It requires of course that the work which is done under it should be carefully determined in all its details before it is contracted for, and makes it objectionable to alter it in any respect afterwards. It therefore cuts the architect off from studying his work as it goes on, or at least from giving it the benefit of such study. The privilege of adjusting the detail of a building as its mass grows before one's eyes is a great one; there are few architects who cannot recall many instances where they would have been glad to modify their work, but were prevented by the fact that it had been contracted for, and could not be changed except at a loss. No doubt it is the more heroic way of designing, to carry every thing through at once to its last detail, and then leave it forever fixed; but there are few men whose second thoughts do not suggest improvements on their first conceptions. The rigor with which it is necessary to execute Government contracts would make this necessity more oppressive under them than under private ones; and this would be aggravated if it were found to be impracticable, as we think it would be, to let the architects who designed public buildings always superintend them.

An analogous and perhaps ultimately a more serious effect of contract work is that it tends to check the progress of design by making work rigid and monotonous. In order that the cost of work may be exactly estimated in advance, it must be of a familiar kind; if there are any unusual features in it, a mechanic commonly prefers to do it by day's work, or else makes a very large estimate to cover contingencies. The tendency of this, of course, is to make work mechanical, monotonous, and uninventive, wherever the habit of working by contract prevails. It is offset in private practice by the acquaintance with each other's ways and expectations which architects and mechanics get by working often together. But in public buildings, which would for the most part be designed and executed by persons who are strangers to each other's work, we should think that this difficulty might be found a serious obstacle to the freedom of design which it is especially desirable to secure for them.

Artistic considerations apart, the whole question of economy and excellence between day's work and contract work is likely to resolve itself into one of administration. There are difficulties in both systems; and it is likely that their relative economy cannot be judged except by comparing the results of both in actual experience for a considerable time, under the same officer and on the same kind of work.

GOVERNMENT ARCHITECTURE AND GOVERNMENT ARCHITECTS.

READ BEFORE THE NINTH ANNUAL CONVENTION A. I. A.,

BY P. B. WIGHT, OF THE CHICAGO CHAPTER, FELLOW.

THE approach of a nation's centennial anniversary not only suggests a review of the work of a century, and an inquiry as to whether our efforts in the various fields of human progress have been well directed or not, but it arouses a spirit of reform based upon past experience. This I conceive to be the spirit with which all well-thinking men and bodies of men are to-day actuated; and it is especially appropriate that we, as a representative body, should carefully consider those things which pertain to the future welfare of our country from an architectural point of view. The recent agitation of the question: What is essential to the best progress of government architecture? is in accordance with this spirit. If it is deemed necessary that any thing should be done to that end, *we* shall be called upon, and shall be held responsible, for its solution.

As we read the history of the world in past ages by its monuments, just so surely will ours be read by our monuments. We are prone to think lightly of how we are to be judged by them hereafter, and are too apt to consider the architectural monuments of the present age as transitory in their nature, as most of them are. But though our country is covered with vast numbers of unsubstantial structures, scarcely able to endure for a lifetime, it yet contains many which will live with the greatest monuments of antiquity.

I have in mind one building in New York, covering an entire square of ground, which, having proved to be a bad financial undertaking, was sought to be removed some years ago. This structure is now owned by the United States Government, and is the present Custom House for New York. It is safe to say that it will never be taken down. It was so massively built that it would not pay to destroy it for the sake of putting the ground to more profitable use. We often look to the Parthenon at Athens as an enduring monument. An attempted copy of it stands only one block from the building just mentioned; formerly built for a Custom-House, it is now the United States Sub-Treasury Office. This building exceeds the Parthenon in dimensions and in massiveness of construction. By these we shall certainly be judged in future ages, when the Old South Church and Faneuil Hall have passed away. The Treasury Building and Patent Office; the new State Department Buildings; the United States Capitol; the Girard College and the former United States Bank of Philadelphia; the New York, Ohio, Illinois, Iowa, Tennessee, and South Carolina State Capitols; the Philadelphia and Boston Municipal Buildings; the Williamsburgh Savings Bank, the Equitable Insurance Building; the Telegraph Building, the Tribune Building, and the Coal Exchange of New York; the Gault House in Louisville, and the Palmer House in Chicago; the Post-Offices in Boston, New York, Cincinnati, and St. Louis, — will all stand for ages as architectural monuments of our generation, which time will scarcely efface.

Are we to be judged by these, and, if so, shall we be misjudged? Are we capable of better things? I will not venture to answer, but only suggest the inquiry as leading to a thoughtful consideration of the subject, not intending on this occasion to offer my own criticisms. The buildings named are of all classes, national, state, municipal, and private, agreeing only in that they are all massive and enduring.

It is our *national* buildings with which we are at present mainly concerned. By them our system of administration will be judged; and in them will be read, plainer than books can tell, the history of government architecture in America.

Let us glance for a moment at the past. The history of architecture read by its monuments begins in Egypt. We are all familiar with its remains. They are the offspring of a purely hieratic government, and, as with most succeeding nations, one in which Church and State were combined. The Pyramids are emblems of power without art. Karnac is an emblem of power combined with art. These remains embody most that we know of Egyptian history. The evidence in them is incontestable, that all that there was of power and all that there was of art in the nation

was combined in them, which together have made them so great that nothing else remains to compete with them. Whatever else there *may* have been must have been inconsiderable.

The monuments of India through all ages record a similar history. The temple, the palace, and the tomb are all government buildings, the offspring of a hieratic government which gathered under its centralized power all that there was of art in that country.

We know little more of government architecture until we arrive in Greece. Here was a democratic government which fostered art as no other country or nation ever did. Here we have evidence that the spirit of competition reigned in Arcadian loveliness. The Olympic games instilled a spirit which pervaded a whole nation. History tells us that Greece in her greatest days was a country made famous by peaceful contests; her orators, her athletes, her poets, her artists, all entered the contests actuated by a spirit of emulation, which was fostered by an appreciative, intelligent, and just public opinion. Though we have no record of the fact, we have the best reason for assuming that her architects entered into competitions, and that the high positions accorded them were attained after the most spirited contests; for such was the ruling spirit of the nation. Her remains which have come down to us show structures of nearly equal merit; and we are fortunate in having relics not only of her great but of her small monuments, from the great temples to the portico of the Erectheum and the Choragic Monument. An atmosphere of refined art surrounds them all.

It is only when we go to Rome and her dependences that we find a state of affairs more nearly resembling our own.

The city of Rome under the kings has left no monuments, and we know almost as little of those of ancient Etruria. The republic is in this respect also a barren wilderness of little or no interest to the archæologist. Says Viollet-le-Duc, "The Romans in the early days of the republic properly had no art, as did the Egyptians, the Orientals, and the Greeks. The actual state of their history presents to us a weak populace subject to a few patricians, entirely engaged in self-aggrandizement at the expense of their neighbors, a kind of land-pirates, all actuated by a common desire for power and plunder, having little or no pleasure in those occupations which tend to the culture and love of art. However, Rome was set among neighbors with whom the arts had attained an extraordinary development. The Campagna and Etruria were covered with sacred edifices, public or private, whose value as works of art is attested by remains of the greatest beauty." And, as illustrating the disposition of the Roman character to appropriate to itself the ideas of others, he quotes from Sallust the words of Cæsar: "The greater part of us, whenever we find among either friends or foes a useful thing, appropriate it with studious care," or, as a modern American might say, "gobble it up." The state of Roman society under the republic is described by Viollet-le-Duc in these graphic words: "We see in Rome an aristocracy all powerful, possessing admirable political traditions, recruiting unceasingly from all classes, even among their adversaries. The Roman senate was the power of Rome, and directed every thing. The senators were either descendants of ancient families, or distinguished persons who had filled public positions. All public business was prescribed by the senate. The business of a Roman was either war, the government of conquered provinces, or the exercise of right, that is to say, to plead or dispense justice. Now, there is not one of these occupations which is not opposed to the culture of art. Office-holding was the aim of every Roman citizen; and this tendency was so pronounced at Rome, that, during the last days of the republic, the Latin territory was occupied by only two very distinct classes, office-holders and slaves; the first, owners of the soil, entirely occupied in self-aggrandizement and political intrigue; the second, reduced to an abject state, delivered over to robbery and all the vices engendered by servitude. As for the free Roman plebeians, they were the most barbarous, the most disgusting, and the most venal of all the people who have ever composed a great city; ready for any thing, superstitious, easy to corrupt, and consequently at the mercy of the most crafty, most turbulent, and withal of the wealthiest members of the old families." He says also, "The Greeks were industrious, commercial, sensible of physical and moral beauty, passionate for discussion, and controversial; willing and glad to be men, to possess among themselves their poets, their historians, their orators, and their artists."

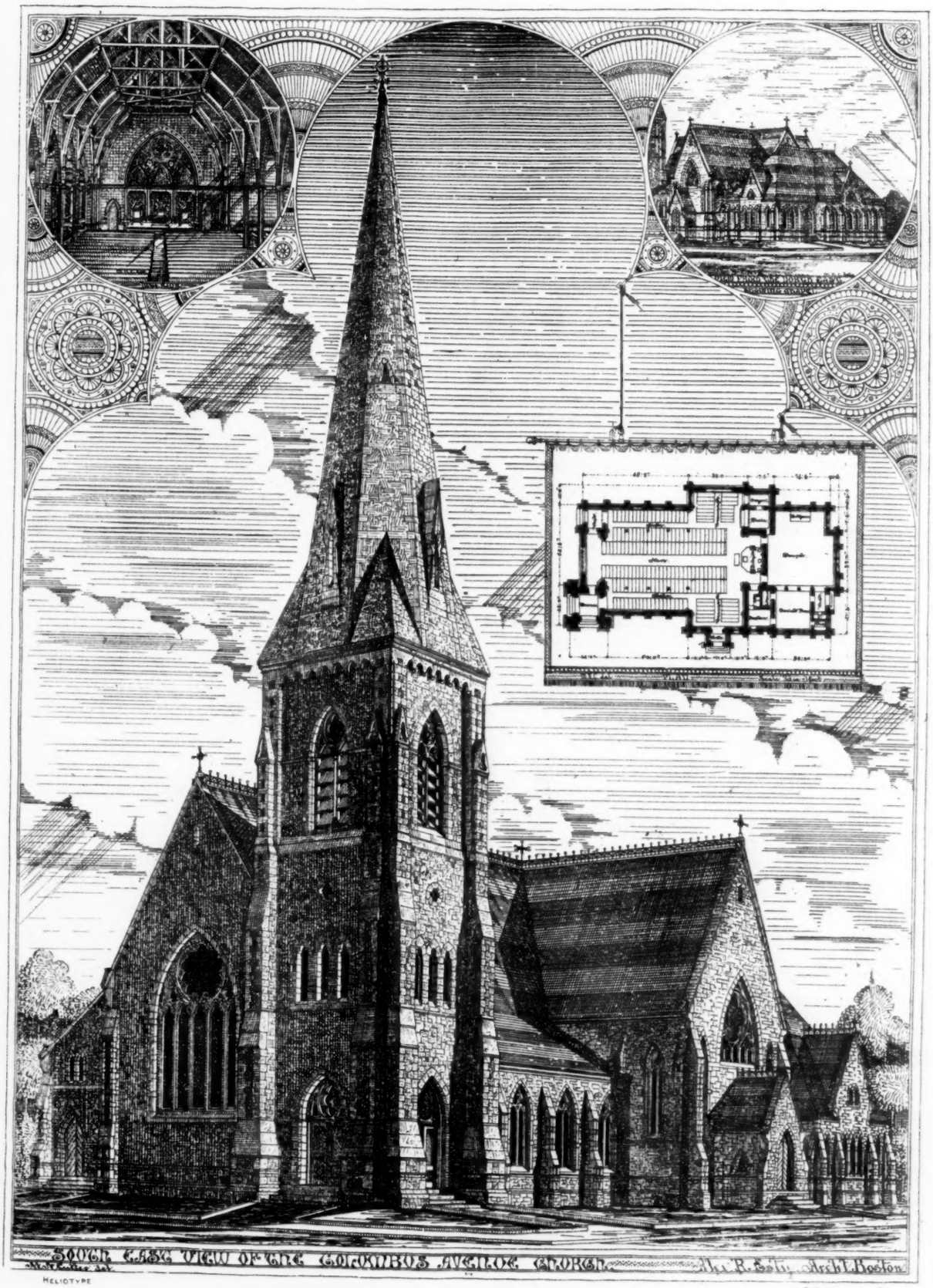
The picture of Roman society may be strongly drawn; but it is based upon the inevitable facts in the history of a declining republic which did nothing for art. Let it be a terrible warning to this nation, which seems often to be given over to the greed for office, power, and plunder, until in despair we are prone to lose our faith in republics. If the tendencies of our own government are like those of ancient Rome, we need not hope for our art unless they are checked; but there is a Greek spirit among us, which yet may save us.

After the republic, the empire. So it was in France in the last century. Imperial Rome, a hieratic government, reared her mighty architectural piles, — Church and State again combined, — tried to rival Egypt with her grandeur, and failed; for the artistic spirit was not within her. She was great in engineers, and poor in artists; and the remains which she shows us to-day are strong in the works of the former, and display the secondary rank taken by the latter. There was nothing indigenous in Roman architecture save her construction. If we can understand her system of government architecture, it appears to us to be one in which architecture was subordinate to engineering, and in which artists were called in only to decorate her architecture. All the failings of modern architecture are seen in her remains. Elaboration of ornament, hiding rather than elucidating construction, prevailed. Veneering was carried to the extreme. The remains of Pompeii, beautiful as they may be if restored, are only examples of decoration. There, stuccoing was resorted to, to the fullest extent; and it is not uncommon to find columns of brick stuccoed to represent stone. The splendid material afforded them was an additional incentive to this. The word "Roman" is proverbial for good cement. I doubt not that clubs of Roman engineers devoted their time mostly to discussing the qualities of materials and constructive problems applicable to the public buildings of the time, while they were as thoughtless of the grand comprehensive architectural problems essential to the production of unique and consistent architectural monuments, as would be a board of engineers of *our* time consulting over the erection of a water-battery or barracks, or an "engineer-in-charge" intrusted with the erection of a custom-house or post-office.

The result of this is that Roman architecture to-day is only the wonder of unlearned travellers, and a means of living for chattering couriers.

From the Roman empire to what we term "the middle ages" followed a long transitional period, chiefly remarkable for great ecclesiastical structures. No record remains to us of the nature and extent of government architecture in Europe during this time. From the eleventh to the fifteenth century, governmental power was centred in the chateaux and palaces. Feudality followed by centralized monarchy placed all power in the hands of kings and nobles, who dictated their wills to the masses, and ruled the world of art with absolute sway, except in so far as church influence was felt. Europe is covered with chateaux which combined in a wonderful way military art with fine art; and this combination is the distinctive feature of the architecture of this period. It was not until the latter part of the thirteenth century, when mediæval art was at its apogee, that municipal power began to be asserted; and, as a result of this, we see the grand town-halls which adorn the older cities of the Continent of Europe. Meanwhile church architecture attained its greatest glory; and the world saw, for the first time since the despotic days of Egypt and the intellectual days of Greece, a consistent architecture covering nearly the whole of Europe, varying but slightly in quality, and equally perfect in chateau, town-hall, and church; and, as recent investigation has shown, in the domestic or household architecture of the middle classes. Where a style was so consistent throughout, directly expressing all the constructive and decorative motives in perfect harmony, it is difficult to say how much governmental administration had to do with it, or how far it tended to develop the architecture of the day. Less is known of the authors of these works than of those of the classic period; but they live in the pleasant memories created by their works.

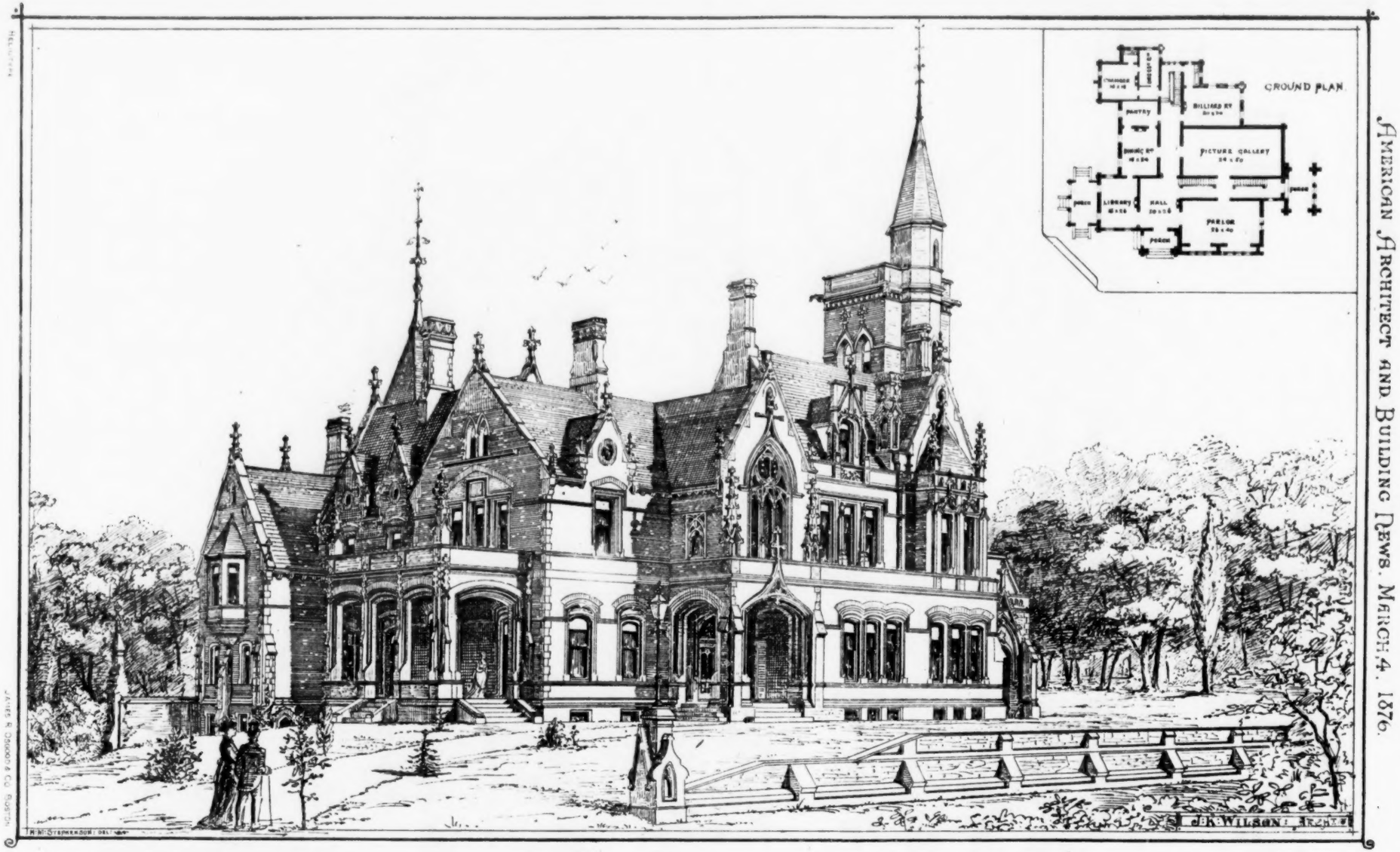
It is only after the attempted revival of Roman architecture, under the name of *the Renaissance*, that we begin to find some record of government architects. The kings of France undoubtedly selected their greatest men for this work. They became court favorites, and were petted and flattered to the highest degree, while their names are inscribed on their monuments. England made St. Paul's to be the monument of Wren, and buried him within its walls. Wren was, in his time, government architect and director of public works. As such he was expected to make his own designs, and was not simply an administrative officer. But he had but few works on hand at a time; and neither then nor since then, until within the last ten years in our own country, has any architect been intrusted with so many public works and such an amount of money to be expended in a given time on public



SOUTH EAST VIEW OF THE COLUMBUS AVENUE CHURCH. Jno. R. Sibley, Arch't. Boston.

HELIOTYPE

JAMES R. OSGOOD & CO. BOSTON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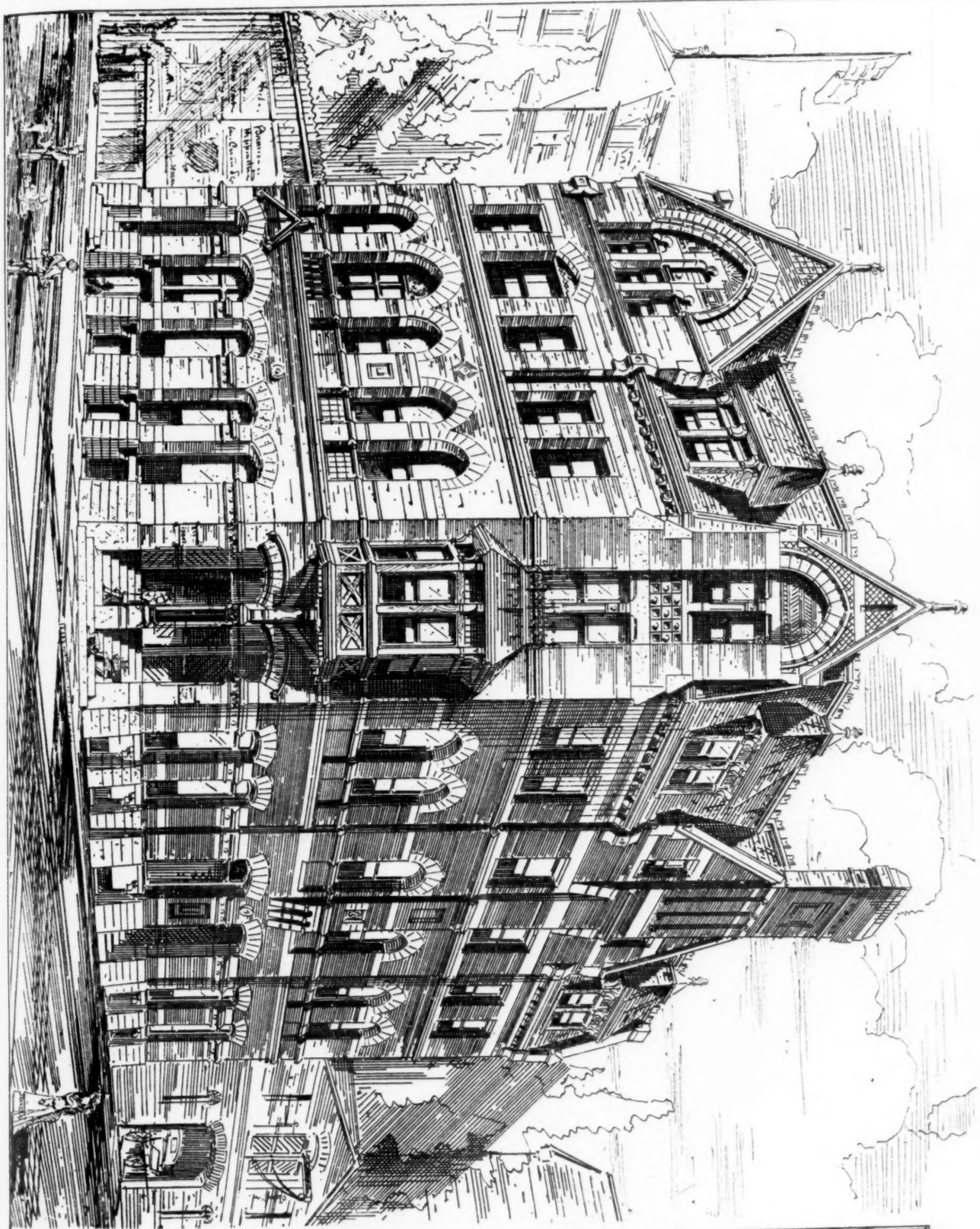
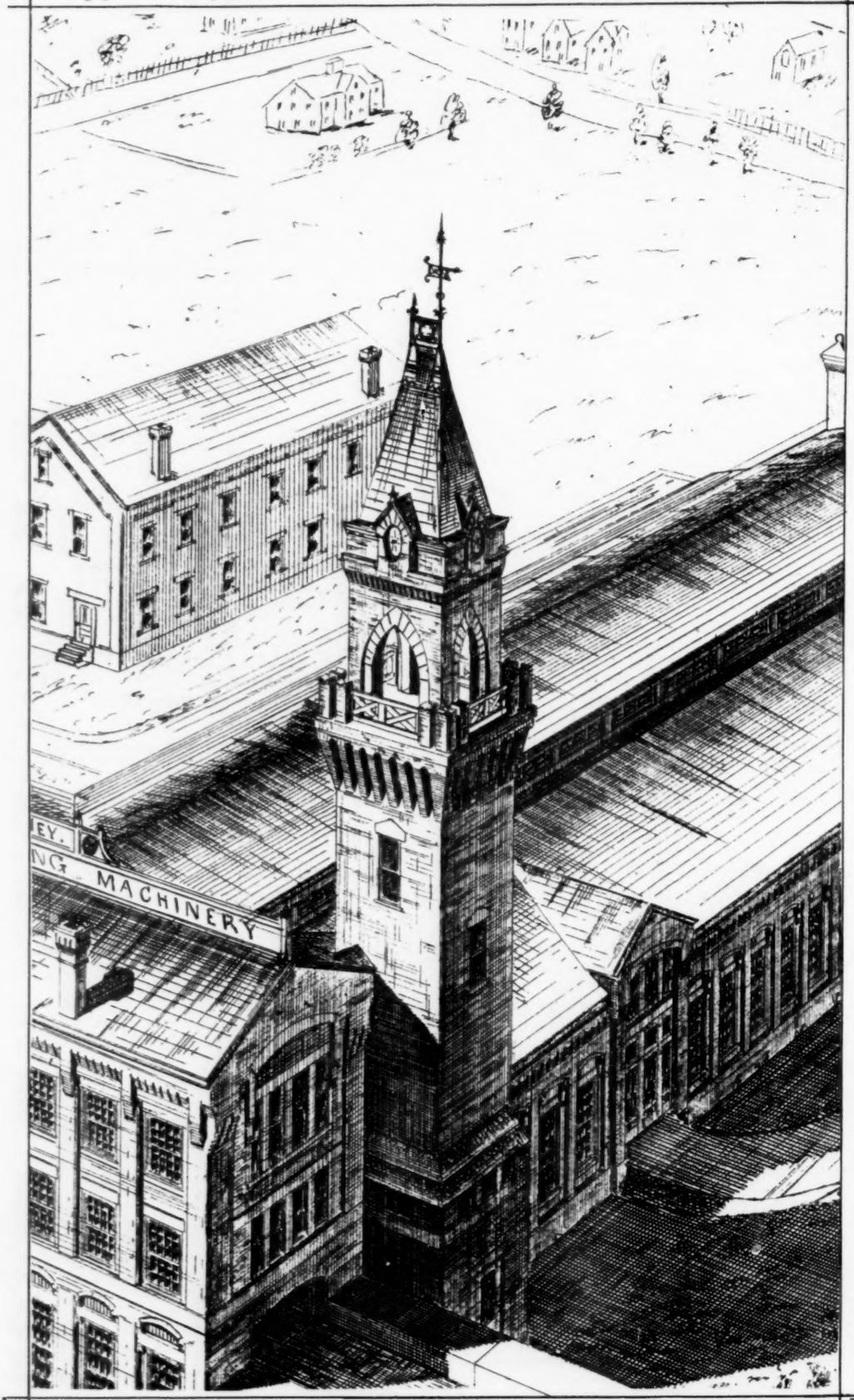
PANTRY
PICTURE GALLERY
LIBRARY
HALL
PARLOR
PORCH
J.R. WILSON, ARCHT.



ESSEX SAVINGS BANK, LAWRENCE, MASS.— FRED. POPE ARCHT. BOSTON, MASS.

HELIOTYPE JAMES R. OSGOOD & CO. BOSTON



MACHINE SHOP AT WINCHENDON —·— MR. H. M. FRANCIS, ARCHITECT, FITCHBURG.

buildings, as has the Supervising Architect of the Treasury Department of the United States.

The name of Philibert Delorme is indissolubly associated with the late Palace of the Tuileries. He, too, was a government architect; and a long list of names of men, famous not only in art but in the history with which they are connected, follow after him.

To bring our inquiries down to modern times, France has for three-quarters of a century lavished her money and her art upon public buildings; while the last empire has sought to rival all the glories of Greece and Rome, and has held up the mirror to the middle ages in the wonderful restorations of her cathedrals and chateaux under Viollet-le-Duc.

England has within a lifetime accomplished a revival such as the world never saw before within a similar time, and has restored nearly all her twenty-nine cathedrals to the condition they were in six hundred years ago. She has reared a Parliament House, which a few years ago was one of the wonders of the world; but she has developed so rapidly in art that even this structure is now numbered among the ephemeral productions of a transitional period.

THE ILLUSTRATIONS.

CONGREGATIONAL CHURCH ON COLUMBUS AVENUE, BOSTON, MASS. MR. A. R. ESTY, ARCHITECT.

THIS church, although it has been occupied for several years, was completed during the past year by the addition of a stone spire; it is built of Roxbury stone ornamented with Nova-Scotia stone. The main auditorium, which furnishes seats for one thousand persons, is finished in black walnut, and is covered by an open-timber roof. The cost of construction was one hundred and thirty-five thousand dollars.

ESSEX SAVINGS BANK, OF LAWRENCE, MASS. MR. FRED. POPE, ARCHITECT.

This was a competitive design for the Essex Savings Bank, of Lawrence, Mass. The architect was obliged to guarantee that the cost of the completed building should not exceed the amount appropriated by the building committee. The building was designed to be executed in face-brick laid with black mortar. The stone work is of light sandstone.

HOUSE OF MR. SCHÖNBERGER, CINCINNATI. MR. JAMES K. WILSON, ARCHITECT.

MACHINE SHOP AT WINCHENDON. MR. H. M. FRANCIS, ARCHITECT.

THE HABITATIONS OF MAN IN ALL AGES.

BY VIOLLET-LE-DUC.

II. — ARYAN DWELLINGS.

AFTER twenty years' sojourn of the new-comers in this fertile territory, there might, therefore, be reckoned about a dozen great families, distinguished by their power and riches from the remainder who were less fortunate, though in the assemblies they had equal rights in deciding on matters under discussion. But, whether spacious or small, the Aryan dwellings were all built on the same plan.

They invariably consisted of a large hall in which the family and their neighbors assembled, and an interior court more or less spacious, sometimes surrounded by porticoes, beneath which opened the bedrooms. These habitations were closed on the outside; for the Aryas, surrounded by serfs whom they could not trust, did not wish to be overlooked by the curious, or their dwellings rendered too easily accessible. An outer enclosure contained the cattle-sheds, the stables, and the quarters for the servants attached to the house, with barns and provision stores.

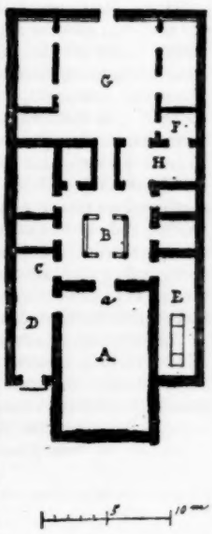


Fig. 18.

Figure 18 presents the plan of one of the largest and best arranged of these houses. At A, the hall entered by two doors, — one from the outside, the other from the inner court. From this large hall there is no communication with the habitation, except by the second door *a*. At B is the interior court with its portico, and the bedchambers all round. The entrance to the dwelling part is at C, with the apartment D, in which the chief daily receives the people from without.

At E is the consecrated part, reserved for sacrificial rites, and where the family treasure is deposited; for at that time the head of the family used to perform amid his household the three religious ceremonies of the day: the first at sunrise, the second when the sun was at its highest, and the third at the setting of the star that generates life. At G is the outer court with its wall, its special gate, and the stables, servants' quarters, and storerooms, a small room at F for the preparation of food, and at H the room in which the family meet to take their meals.

Fine trees surround this dwelling, which is built of stone and timber, and of which figure 19 presents the external aspect on the

Fig. 19.

side of the great hall. But we must enter somewhat into detail, respecting the mixed system of construction employed.

The master of this habitation had determined that all the lower part towards the outside should be built of stone. For this purpose he had employed a part of his serfs in quarrying blocks of stone along the neighboring limestone hills; these blocks were brought to the site on wagons drawn by oxen. On this basement was erected, to form the upper part of the great hall, a framing of heavy timber-work; and on this box a roof constructed according to the method shown in figure 20.

Upon the upper wall-plates AB, were laid cross-timbers CC; on these the side-pieces E, then other shorter cross-timbers G, side-pieces H, and so on up to the ridge F. Thus were obtained gables of open-work at either end and one midway, thoroughly strong. To the side-pieces were fastened long poles, and on these reeds lengthwise; then a thick layer of rushes thatched according to the method adopted by the natives, so that the rain could not penetrate this roofing.

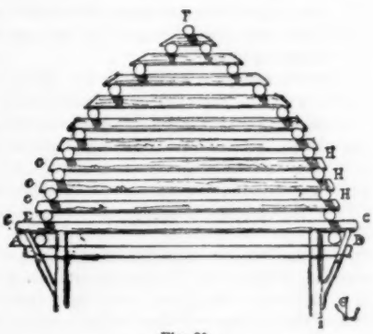


Fig. 20.

The same procedure was adopted for the buildings designed for habitation, — that is to say, with a series of open-work gables or *lean-to's*. The supports of the portico were made of trunks of trees forked at the top, as shown in figure 21; and as the master

of the house was rich, and had serfs skilled in the art of working wood, instead of leaving trunks in the rough, he had them wrought as richly as possible, so that this portico presented a very striking appearance, and was considered by all an excellent work.

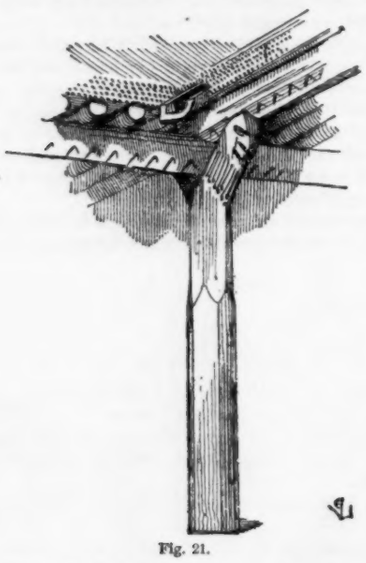


Fig. 21.

The doorways left in the stone basement were made of two planks meeting at the top so as to form triangular openings, perfectly strong, and whose inclined jambs were enclosed by the walls made of irregular blocks carefully fitted, according to the method used by the Aryas in their mountain home. The partitions separating the rooms consisted merely of coarse trellis-work of canes on which were hung skins of beasts. The repasts were prepared in the smaller hall F (figure 18), as stated above, and the family took their meals in the apartment H, opening on the portico.

The bedchambers were lighted only by the doorways opening on the portico, and the great hall by the openings left in the upper timber framing, these openings being closed only by wicker-work.

CORRESPONDENCE.

NEW YORK, Feb. 21, 1876.

THE bill for the establishment of an Architectural Bureau to replace, or rather supplement, the present office of Supervising Architect, has been very generally received with favor. The older architects heartily commend it, while the younger and less known practitioners are favorable to it. The Evening Post on the 9th inst., under a strange misapprehension of the true bearing and provisions of the bill, expressed surprise that Mr. Hewitt, a Democratic member, should have introduced such a bill, and wrote: "There can be no show of propriety in the establishment of the proposed bureau. The business of architects is essentially a private one. The profession is made up of individuals engaged in planning buildings for hire; and there is no more reason for placing it under the patronage of Government than for doing the same for law, medicine, journalism, and every other profession known among men."

Letters were at once sent in by better-informed readers, with intent to correct this curious mistake in so influential a journal; and among them a letter from Congressman Hewitt, explaining that the bill and its provisions had reference only to public edifices to be erected by the Government of the United States. After quoting very fully the sections of the proposed act, the Post finds it in conformity with the recent report of Supervising Architect Potter, who thought it "difficult, if not impossible, to separate the office of Supervising Architect from political control," and, in addition to this, that its varied duties left him "no opportunity for the proper study of the designs which he is required to make;" and concludes that "This proposed bureau, as it is called, avoids the danger of criticism, which was properly elicited by the establishment of such a bureau as that of agriculture, since it does not add a new branch of business to our already overburdened Government, but only makes independent an existing branch, which, as a part of the treasury department, was found to be defective." *

It is reported that a bill is in course of preparation by Mr. Potter, which will be offered in a few days, and pressed for passage in preference to what is known as the Institute Bill. Mr. Potter, while not particularly opposing the Bureau Bill, was not in favor of some of its provisions; and this bill in preparation is an attempt to embody these objections in a substitute bill. It is certain that the Institute will not lobby its bill, though members would be very willing to state their views before any of the appropriate committees.

Unless a move is presently made here in the building line, the prospect is, that 1876 will be distinguished by a smaller number of new structures than any of the preceding four years. During the five weeks of this year ending Feb. 12, but fifty-seven plans have been filed at the building department, including a total of eighty-six separate buildings; and of these twenty-nine are for tenement-houses. Many of the architects are working easily along on previous commissions; but, beyond here and there an intimation of something big in preparation, the profession may be called dull.

Mr. William R. Mead has a somewhat unusual piece of work in hand in the moving across town of a church. When Dr. Hall's congregation went into the occupation of their new church edifice, two miles or more up Fifth Avenue, the old church was presented to the Central Presbyterian Church, having a plot of land in West Fifty-seventh Street. The distance from the old church, corner of Fifth Avenue and Nineteenth Street, to the plot owned by the Central Society, is nearly three miles; and it was a subject of no small discussion to determine whether the gift was worth the taking. It was finally determined to accept the offer, take down the walls, checking each separate stone, carry the whole across town, and rebuild it exactly. The church is not a very large affair, — a depth of eighty feet with a width of fifty making the area of the main audience-room. But a chapel, or lecture-room, increased the task somewhat; and, with some small towers, made the number of distinct pieces of stone included between water-table and coping some thousands. Particular attention was paid to door and window jambs and the buttresses, in labelling the several stones. When re-erected, the whole will have the familiar look which it has worn for so many years. Inside, however, the large posts which now support the galleries and roof-timbers will be replaced by longitudinal wrought-iron trusses, which in turn carry the roof. During the rebuilding of the railroad viaduct over the low lands in the upper part of the city, for the passage of trains to the Grand Central Depot, a number of large arches were taken down, the foundations amended, and the stones replaced in similar juxtaposition. It is but rarely that this comparatively toilsome method of tearing down and rebuilding is attempted; and its adoption with a church on a prominent avenue has led to much general conversation by the outside public, who have been sorely puzzled by the mass of hieroglyphics with which the building appears to be covered.

THE SAN FRANCISCO PUBLIC BATHS.

ONE of the items of the Lick Deed for the benefit of the people of California was the appropriation of $150,000 for the erection of public baths for the use of the residents of San Francisco. The task of designing the edifice was assigned to Messrs. Wright and Saunders, architects, by the committee having the matter in charge. The drawings prepared show a glass and iron structure, somewhat in the style of a crystal palace or a gigantic hot-house. There is a warm hall 370 x 80 feet, with two aisles 17 feet wide on either side. There is a centre transept 150 x 70 feet, with north and south transepts each 110 x 40 feet in area. The roof is arched, and rises to a height of about 70 feet. At each end of the centre transept are located the vestibules of the building, with floors laid in English encaustic tile. There are entrances also at the ends of the smaller transepts. At each entrance are waiting-rooms, ticket-offices, &c.

The interior is thrown into three large compartments. In the middle room is located the men's bath, a great swimming tank 160 x 50 feet, and with a depth of water running from 4 feet at the end to 12 feet at the centre section. In the south transept the boys' bath is situated, 80 x 50 feet in area, and with an average depth of between 4 and 5 feet. The bath for ladies is in the northern end of the building, 80 x 30 feet in water area, and of similar depth to that set apart for the boys.

* This bill, however, does not go so far as to make any "branch" independent; for the new bureau is to be established "in the Treasury Department, where the office of Supervising Architect now exists."

The central tank is elevated above the general level of the floor, the side walls of the receptacle being strengthened by buttresses at frequent intervals. It is intended to occupy the compartments between the buttresses with aquarium tanks. The dressing-boxes are placed along the edges of the bathing-pools, while higher again a gallery for spectators will be arranged.

There are walks 17 feet or more in width within the building; and it is designed to have tropical plants set along these paths. The great tanks are of masonry lined with Keene's cement, which is entirely impervious to water; the top edge being finished off with a marble cornice and tiling above the water line. When not in use, a jet will play in the centre of each bathing pool.

The water used will be the salt water drawn from the centre of San Francisco Bay, and conducted by pipes to the pumping machinery at the premises. It will be then forced to the top of the building, and exposed to the sun's rays, that it may receive a degree of warmth sufficient to take from it the natural chilliness. The water is forced in a shower of spray into the sun's rays, and is conducted thence into the bathing tanks below. This cheap mode of heating has been, it is said, very successfully applied at the public baths in Liverpool, England; and, with the greater elevation at the San Francisco house, it is thought the plan will be entirely feasible. The site chosen for the bath structure is on Columbia Square, bounded by Folsom, Columbia, Sixth, and Seventh Streets, provided the Common Council shall grant the land for such a use.

PREFECTORAL ORDER

CONCERNING THE CONSTRUCTION OF SMOKE-FLUES, ETC., IN DWELLINGS IN THE CITY OF PARIS.

THE prefect of the Department of the Seine: —

Considering the decree of the 26th of March, 1862, Art. 4, §1: "He, the builder, shall file in the office of the proper functionary a plan and section, with dimensions figured thereon, of the works he intends or proposes to build, and shall submit to any directions which may be given in the interest of public health or safety;"

Considering the ordinance of the 11th of December following, on the directions to be followed in the construction of smoke-flues;

Considering the Prefectoral Order of the 28th of July, 1873, which institutes a special commission to investigate, study, and prepare the necessary modifications to the present regulations in the construction of smoke-flues in dwellings;

Considering the project of regulations presented by the commission above mentioned, —

Orders: —

ARTICLE 1. The construction of fireplaces or smoke-flues in party-walls or in walls separating adjoining or contiguous buildings, whether the buildings belong to the same owner or not, is absolutely prohibited.

ART. 2. The construction of smoke-flues in partition-walls is allowed, provided partition-walls built in rubble masonry shall be not less than 40 c.m. (15¾ inches) thick, including plastering, or in brick work not less than 37 c.m. (14⅞ inches) thick, including plastering.

ART. 3. The smoke-flues in said walls shall be built with brick, or with earthenware blocks, which may be tied to the materials of the walls with proper toothings.

Earthenware or plaster pipes for smoke-flues shall not be built into these walls, nor shall smoke-flues be built in rubble walls plastered around a movable core.

ART. 4. All smoke-flues having an area of less than 60 c.m. (23⅝ inches) in length by 25 c.m. (9⅞ inches) in width shall have an area of at least 4 sq. decimetres (62 inches) super. The short side of a flue shall not be less than 20 c.m. (7⅞ inches), and the long side shall not exceed in length the short side by more than one-fourth.

The interior angles of the flues shall be rounded off at a radius of 5 c.m. (2 inches). The area thus occupied will be computed as being a portion of the total area above required.

The piers between the interior of the flues, and the openings for either doors or windows adjoining, shall be of masonry not less than 45 c.m. (17¾ inches) thick, including plastering. If the said piers are built of wrought stone or brick-work, then the thickness may be reduced to 25 c.m. (9⅞ inches).

ART. 5. Smoke-flues not built inside of walls shall be allowed only if built against piers of masonry or against stone walls having at least 40 c.m. (15¾ inches) in thickness, plastering included, or against brick walls 22 c.m. (8⅝ inches) thick, or in the upper story against brick partitions, 11 c.m. (4⅜ inches) thick.

Smoke-flues thus built shall be firmly tied to the supporting pier or wall.

Smoke-flues having an area of 60 c.m. (23⅝ inches) by 25 c.m. (9⅞ inches) may be built in plaster work.

ART. 6. The front, sides, and withes of smoke-flues, built either in the walls or backed up to same, shall not be less than 8 c.m. (3 1/16 inches) thick, including plastering.

ART. 7. Smoke-flues shall not deviate from the plumb line more than 30 degrees. They shall have an equal area their whole height, and shall be easily accessible at the top.

ART. 8. The above regulations do not apply: 1st, To smoke-flues placed outside of dwellings; 2d, Smoke-flues of stoves, provided the smoke-flue does not extend further than the room in which the stove is placed; 3d, Smoke-flues of workshop fires, provided said flues do not extend into any dwelling.

(Signed) FERDINAND DUVAL, *Prefect.*

PARIS, Aug. 8, 1874.

STATE BUILDING LAWS.

TO THE EDITOR OF THE AMERICAN ARCHITECT.

Sir, — In many States but few laws exist on the subject of buildings, and the rights and obligations of adjoining property-owners; and it is desirable that such laws should be uniform as far as possible.

There are two classes of laws to be considered, — State and Municipal.

State laws should be of such character, and embrace only such subjects, as are universal in their application, and unaffected by corporate limits; and suggestions as to this class only will be made in this article.

Municipal laws, being the result of local necessities, properly belong to local authorities, and will be considered in a future article.

For State laws the following suggestions are offered: —

1. Lot owners proposing to build should be obliged to give adjoining owners and tenants ten days' written notice of their intentions.

2. Adjoining lot owners should be obliged to protect their own property to a depth of twelve feet below the level of the street-curb, or, in the absence of a curb, to a depth of twelve feet below the crown of the street or road.

3. Lot owners making excavations to a depth of more than twelve feet below the level of a street curb or crown of street should be obliged to protect adjoining property below the said depth of twelve feet, and be responsible for all damage which may occur.

4. Foundations of party-walls should be started at a depth of not less than twelve feet below the street curb, and all party-walls should be finished as fire-walls.

5. For lots having irregular surfaces, the equivalent of twelve feet below the street curb or crown of road should be determined by the arbitration of three competent persons, one to be chosen by each party, and the third by the two thus selected; the decision of said arbitrators to be equal in force to a judgment of court, and to be made a matter of record.

6. Lots having a value on the tax duplicate of three hundred dollars per front foot, or three dollars per square foot, to have flag pavements with covered gutters or water-ways across them.

7. Lots having a value on the tax duplicate of less than three hundred dollars per front foot, or three dollars per square foot, and exceeding twenty-five dollars per front foot, or twenty-five cents per square foot, should have brick or other equally good pavement.

8. Pavements should be laid with a grade of one-fourth inch to the foot from the building or lot line to the curb.

9. Pavements from nine to twelve feet in width should be kept free from obstructions, and open areas for two-thirds their width; pavements less than nine feet in width should be kept free from obstructions, and open areas for three-fourths their width.

10. Pavements more than twelve feet in width to be kept free from obstructions, and open areas, to a point not exceeding four feet distant from the lot line.

Other subjects additional to these suggested, and connected with the erection of buildings, could be embodied in laws which would be beneficial to the community; and the enactment of proper and equitable statutes would prevent much of the unsatisfactory and expensive litigation which is the result of the want of such laws.

PLUMBING IN SAN FRANCISCO.

Having received the following communication, we think the best way of complying with our correspondent's suggestion is to give it a place in our columns.

To The Editor of American Architect and Building News.

"*My Dear Sir*, — We are in great need, in this empire city of the Pacific, of a first-class professional hydraulic engineer, and of a plumber and gas-fitter. The city has a population of 200,000; and the plumbers' business is in the hands of a set of men who are utterly incompetent. A good field is open here to a first-class man or firm to be established here; also we want a first-class plaster-ornament maker, for centre-pieces, &c. If you know of any in that line from your city, send them, with a letter to my address, and they can establish themselves, and make money. The plumbing-work of this city is left to boys and men who have picked up the business.

"Excuse the liberty I take in sending you these suggestions, being a subscriber to your Architect and Building News."

"Yours, &c.

"San Francisco, Cal."

NOTES AND CLIPPINGS.

We had the pleasure yesterday of looking at the designs contributed by the architects competing for the prize of four hundred dollars, offered for the best plan of a building for the Fraser Institute. They are forty-six in number, and form a very creditable and interesting collection. They have been sent from Boston, Philadelphia, New York, Toronto, and various other places in the United States and Canada, and thus represent, in a manner, the architectural talent of all North America. They are Gothic in style, according to the terms of the competition, with two exceptions. Of course, in so large a variety, there will be various degrees of excellence, and there will also be afforded an opportunity of satisfying many tastes. While there are some which at once strike all observers, by their beauty of outline, massive grandeur, or wealth of ornamentation, there is not one, perhaps, which can altogether escape criticism, or which would be universally pronounced perfect. Some are too ecclesiastical, others too domestic; some offend through excess, others through deficiency of decoration. In one or two instances, some caprice of the architect has spoiled what would otherwise have presented an admirable *tout ensemble;* while, in a great many, the desire to produce something singular or original has marred by forced quaintness the offspring of a noble, artistic idea. — *Montreal Gazette.*

One would be much more likely to expect to meet with such a building as the new Westminster Aquarium in America than in Gothic England; and, more than that, in the very shadow of Westminster Abbey. Few modern buildings exhibit in their composition a more striking example of utter ignorance of the laws of unity and proportion. That the various parts of the building should have a common scale, that the ornaments and sculptures should be of suitable size for the positions they were to occupy, seems never to have occurred to the builders. In excuse for its many and glaring defects of design, it may be urged that it was only nine months ago that its site was waste land; moreover, it does in a certain loose way express by its exterior the use to which it is to be put.

It is intended to be one of the largest places of public amusement in London, including within its walls a promenade and winter garden, large aquarium-tanks, a large orchestra, collections of sculpture and painting, dining and billiard rooms, and eventually a theatre. The principal features of the building are two large halls, one 120 feet by 80; the other, 340 feet by 130 (the width being taken between the aquarium-tanks), each of which is covered by a semicircular roof of glass and iron. As the building is, in the first instance, intended to be used as an aquarium, the greatest attention has been paid to the arrangements of the fish-tanks, and the supply of water. In the large hall there are seven large tanks 18 feet square, and thirteen smaller tanks 7 by 18 feet. The walls of the small hall are lined with still smaller tanks. Besides these visible tanks, the whole space under the floor of the main hall is taken up by nine large tanks, carefully constructed to resist the pressure of the water. Of these nine tanks, two only contain fresh water; the others are filled with salt water. These last are all connected, so that water flows uninterruptedly from one to another throughout the length of the building, and is afterwards pumped up to be used in the glass tanks in the large halls; then it passes into a large well, from which it is pumped, and again makes the tour of the tanks. As a stoppage of two or three hours in the flow and aëration of the salt water would be fatal to a large portion of the fishes, a second engine has been provided to obviate accidents. Any one tank can be disconnected from the series, and repaired conveniently, the water passing across the disconnected tank by means of a pipe. All the water-pipes are of vulcanite, and all the tanks are lined with asphalte, as both iron and cement are injurious to the purity of the water, and consequently to the health of the fishes. The other interesting feature of this large building is the manner in which the roof is glazed, as no putty or other cement is used in its construction. Wooden cross-battens stretch from rib to rib, to which are fixed grooved bars of zinc. The panes of glass are placed side by side, lapping each other vertically by three-quarters of an inch over and under in horizontal alternation. The glass is inserted in the zinc grooves, into which the water runs at the foot of each pane, and is discharged on the centre of the pane below from a cut made in the centre of the groove. It is asserted, that, if any water is blown through the joints, it will flow down the inside of the roof till it reaches a drain at the foot of the roof provided for this purpose.

Mr. Furness's new building for the Pennsylvania Academy of Fine Arts in Philadelphia, now nearly completed, will be opened for the exhibition of paintings and sculptures on the fourth Monday of next April. More than half of the permanent collection of the Academy is already in the building, the large terra-cotta group representing the battle of the Centaurs and Lapithæ occupying the main corridor. It is the intention of the directors to increase the collection by casts from the best available examples. The Art Schools of the Academy will begin as soon as the building is finished.

Mr. Schussele has been selected as teacher of drawing, and there will also be instructors in anatomy, modelling, and perspective, the latter of whom will also teach architectural drawing. These instructors have not yet been chosen. Artists who received the degree of Academician or Associate Member of the Academy, under its previous organization, are entitled to admittance to any or all departments of the school. Others who wish to join classes must leave at the office of the Academy a drawing from a plaster cast, or from the living model, without any name or distinguishing mark to indicate its author. The committee will decide thereby whether the applicant is sufficiently advanced in the practice of art to be entitled to a ticket of admission. The Academy has no primary school, and beginners must seek their first instruction from artists who are accustomed to receive pupils. Students are entirely and absolutely free from every kind of fee or charge.

It has been decided that the blank panels left on the front of the building shall be filled with bas-reliefs of eight principal groups from Paul Delaroche's famous frescoes in the hemicycle of the *Ecole des Beaux-Arts*. The directors, having in their collection a headless Greek statue, have placed it over their main door in odd incongruity with their façade, where it will never be regarded, and will probably soon perish of exposure. They argue ingeniously, that a genuine antique, representing in its way the foundation of all modern art, should fitly hold the place of honor over their main portal, — an example of the pitfalls into which they stumble, who assume to decide the problems of art by metaphysical reasoning instead of artistic feeling.

A Prehistoric Road. — Several years ago, portions of an ancient macadamized road were discovered on the banks of the Monongahela River, near Fairmount, W. Va.; and, on a recent exploration by government surveyors, it was traced for nearly eleven miles along the bottom land between the river and the hills. Its width is fifteen feet. It is composed of bowlders of red sandstone, which must have been brought from a distance, there being few if any bowlders in or near the river. It is supposed that the stones were broken into pieces by first heating, and then throwing water upon them. The depth of broken stone is about eighteen inches.

It is proposed to build another building for the exhibition of photographs, distinct from the one now building by the Centennial Photographic Company at Philadelphia. It is to be of iron, glass, and bronze, 258 x 107 feet, and will contain collections from England, Germany, Austria, and France.